

CLAIMS

What is claimed is:

1 1. A method for managing an uncorrectable data error from an I/O subsystem as
2 the UE passes through a plurality of devices in a central electronic complex (CEC), the method
3 comprises the steps of:

- 4 (a) detecting an I/O UE condition by at least one device in the CEC;
- 5 (b) providing an SUE-RE (Special Uncorrectable Data Error-Recoverable
6 Error) attention signal by the at least one device to a diagnostic system to indicate the I/O UE
7 condition; and
- 8 (c) analyzing the SUE-RE attention signal by the diagnostic system to
9 produce a record for later use which can isolate the I/O UE condition to the I/O port.

1 2. The method of claim 1 wherein the UE can produce any of the following
2 conditions: a UE-RE condition; an SUE-mask condition; SUE interrupt condition; a SUE-RE
3 condition and a SUE-CS condition.

1 3. The method of claim 2 wherein the SUE-mask condition does not need to be
2 reported.

1 4. The method of claim 1 wherein the diagnostic system comprises a processor
2 runtime diagnostic (PRD) code.

1 5. The method of claim 2 wherein the detecting step (a) comprises the steps of:

2 (a1) detecting a SUE-RE condition by a first device; and
3 (a2) detecting a SUE-CS condition by at least one other device at a later point in
4 time, wherein the SUE-RE condition and the SUE-CS conditions are processed at substantially
5 the same time.

1 6. The method of claim 4 where in the PRD code is within a service processor.

1 7. The method of claim 6 wherein the PRD code accesses each of the plurality of
2 devices through an interface within the service processor.

1 8. The method of claim 7 wherein the interface comprises a JTAG interface.

1 9. A computer readable medium containing program instructions for managing an
2 uncorrectable data error from an I/O subsystem as the UE passes through a plurality of devices
3 in a central electronic complex (CEC), the program instructions for:

4 (a) detecting an I/O UE condition by at least one device in the CEC;
5 (b) providing an SUE-RE (Special Uncorrectable Data Error – Recoverable
6 Error) attention signal by the at least one device to a diagnostic system to indicate the I/O UE
7 condition; and
8 (c) analyzing the SUE-RE attention signal by the diagnostic system to
9 produce a record for later use which can isolate the I/O UE condition to the I/O port.

1 10. The computer readable medium of claim 9 wherein the UE can produce any of
2 the following conditions: a UE-RE condition; an SUE-mask condition; SUE interrupt

3 condition; a SUE-RE condition; and a SUE-CS condition.

1 11. The computer readable medium of claim 10 wherein the SUE-mask condition
2 does not need to be reported.

1 12. The computer readable medium of claim 9 wherein the diagnostic system
2 comprises a processor runtime diagnostic (PRD) code.

1 13. The computer readable medium of claim 10 wherein the detecting step (a)
2 comprises the steps of:

3 (a1) detecting a SUE-RE condition by a first device; and
4 (a2) detecting a SUE-CS condition by at least one other device at a later point in
5 time, wherein the SUE-RE condition and the SUE-CS conditions are processed at substantially
6 the same time.

1 14. The computer readable medium of claim 12 where in the PRD code is within a
2 service processor.

1 15. The computer readable medium of claim 14 wherein the PRD code accesses
2 each of the plurality of devices through an interface within the service processor.

1 16. The computer readable medium of claim 15 wherein the interface comprises a
2 JTAG interface.

1 17. A service processor for managing an uncorrectable data error from an I/O
2 subsystem as the UE passes through a plurality of devices in a central electronic complex
3 (CEC), the service processor comprises:

4 an attention handler for detecting an I/O UE condition by at least one device in the
5 CEC and providing an SUE-RE (Special Uncorrectable Data Error-Recoverable Error)
6 attention signal by the at least one device to indicate the I/O UE condition; and

7 a diagnostic system for receiving the attention signal and for analyzing the SUE-RE
8 attention signal system to produce a record for later use which can isolate the I/O UE condition
9 to the I/O port.

1 18. The service processor of claim 17 wherein the UE can produce any of the
2 following conditions: a UE-RE condition; an SUE-mask condition; SUE interrupt condition, a
3 SUE-RE condition and a SUE-CS condition.

1 19. The service processor of claim 18 wherein the SUE-mask condition does not
2 need to be reported.

1 20. The service processor of claim 17 wherein the diagnostic system comprises a
2 processor runtime diagnostic (PRD) code.

1 21. The service processor of claim 18 wherein the attention handler detects a SUE-

RE condition by a first device, and detects a SUE-CS condition by at least one other device at a later point in time, wherein the SUE-RE condition and the SUE-CS conditions are processed at substantially the same time.

22. The service processor of claim 20 wherein the PRD code accesses each of the plurality of devices through an interface within the service processor.

23. The service processor of claim 22 wherein the interface comprises a JTAG interface.

24. A method for managing an uncorrectable data error from an I/O subsystem as the UE passes through a plurality of devices in a central electronic complex (CEC), the method comprises the steps of:

(a) detecting an I/O UE condition by at least one device in the CEC wherein the detecting step (a) comprises the steps of: (a1) detecting a SUE-RE condition by a first device; and (a2) detecting a SUE-CS condition by the at least one other device at a later point in time, wherein the SUE-RE condition and the SUE-CS conditions are processed at substantially the same time;

(b) providing an SUE-RE (Special Uncorrectable Data Error-Recoverable Error) attention signal by at least one device to a processor runtime diagnostic (PRD) code to indicate the I/O UE condition, wherein the PRD accesses each of the plurality of devices through an interface within the service processor; and

(c) analyzing the SUE-RE attention signal by the diagnostic system to produce a record for later use which can isolate the I/O UE condition to the I/O port.

1 25. The method of claim 24 wherein the UE can produce any of the following
2 conditions: a UE-RE condition; an SUE-mask condition; SUE interrupt condition; a SUE-RE
3 condition and a SUE-CS condition.

1 26. The method of claim 25 wherein the SUE-mask condition does not need to be
2 reported.

1 27. The method of claim 26 wherein the PRD code is within a service processor.

1 28. The method of claim 27 wherein the interface comprises a JTAG interface.

1 29. A computer readable medium containing program instructions for managing an
2 uncorrectable data error from an I/O subsystem as the UE passes through a plurality of devices
3 in a central electronic complex (CEC), the method comprises the steps of:

4 (a) detecting an I/O UE condition by at least one device in the CEC wherein the
5 detecting step (a) comprises the steps of: (a1) detecting a SUE-RE condition by a first device;
6 and (a2) detecting a SUE-CS condition by the at least one other device at a later point in time,
7 wherein the SUE-RE condition and the SUE-CS conditions are processed at substantially the
8 same time;

9 (b) providing an SUE-RE (Special Uncorrectable Data Error-Recoverable Error)
10 attention signal by at least one device to a processor runtime diagnostic (PRD) code to indicate
11 the I/O UE condition, wherein the PRD accesses each of the plurality of devices through an
12 interface within the service processor; and

14 record for later use which can isolate the I/O UE condition to the I/O port.

1 30. The computer readable medium of claim 29 wherein the UE can produce any of
2 the following conditions: a UE-RE condition; an SUE-mask condition; SUE interrupt
3 condition; and a SUE-CS condition.

1 31. The computer readable medium of claim 30 wherein the SUE-mask condition
2 does not need to be reported.

1 32. The computer readable medium of claim 31 wherein the PRD code is within a
2 service processor.

1 33. The computer readable medium of claim 32 wherein the interface comprises a
2 JTAG interface.

1 34. A service processor for managing an uncorrectable data error from an I/O subsystem as
2 the UE passes through a plurality of devices in a central electronic complex (CEC), the service
3 processor comprises:

4 an attention handler for detecting an I/O UE condition by at least one device in the
5 CEC and providing an SUE-RE (Special Uncorrectable Data Error-Recoverable Error)
6 attention signal by the at least one device to indicate the I/O UE condition wherein the attention
7 handler detects a SUE-RE condition by a first device, and detects a SUE-CS condition by at
8 least one other device at a later point in time, wherein the SUE-RE condition and the SUE-CS

9 conditions are processed at substantially the same time; and

10 a processor runtime diagnostic (PRD) code for receiving the attention signal and for
11 analyzing the SUE-RE attention signal system to produce a record for later use which can
12 isolate the I/O UE condition to the I/O port.

1 35. The service processor of claim 34 wherein the UE can produce any of the
2 following conditions: a UE-RE condition; an SUE-mask condition; SUE interrupt condition, a
3 SUE-RE condition and a SUE-CS condition.

1 36. The service processor of claim 35 wherein the SUE-mask condition does not
2 need to be reported.

3 37. The service processor of claim 36 wherein the PRD code accesses each of the
plurality of devices through an interface within the service processor.

1 38. The service processor of claim 37 wherein the interface comprises a JTAG
2 interface.